

REMARKS

Summary of Claim Amendments

Independent claims 1, 2 and 9 and dependent claims 3-7, 11, and 12 have been amended. In claim 1, "a flow rate adjusting section" is clarified as both "an exhaust flow rate adjusting section" and "a supply flow rate adjusting section." Claims 2 and 9 have been similarly amended and the dependent claims have been amended in line with the independent claims from which they depend. No new matter has been added. Upon entry of the amendments, claims 1-12 will remain in the application.

Claim Rejections – 35 U.S.C. §102(b) – Asada

Claims 1-2 and 7-9 stand rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Asada et al. (US 5,562,086) (hereafter "Asada"). This rejection is respectfully traversed.

As set forth in amended claim 1, "an exhaust flow rate adjusting section" adjusts "a flow rate of the exhaust gas discharged from the first exhaust path to a downstream side" as described with respect to the superchargers 19A and 19B described from page 11, line 23 to page 12, line 1 of the specification of the present application. As described, exhaust passages 20A and 20B provide discharges to superchargers 19A and 19B and also to exhaust throttle valves 32A and 32B as described from page 21, line 25 to page 22, line 2 of the specification for adjustment of the exhaust flow rate. As also set forth in claim 1, a "supply flow rate adjusting section" adjusts the "flow rate of the exhaust gas supplied to the intake path from the first exhaust path via the first exhaust gas recirculating path" as described with respect to the flow rate adjusting valves 29A and 29B described at page 12, lines 18- 28, of the specification. A "control section" adjusts the flow rate as described with respect to step S4 in Fig. 2 and page 15, line 34 to page 16, line 24 of the specification.

The advantage of the apparatus of claim 1 is described, for example, at page 19, line 10 to page 20, line 10 of the specification. As recited therein:

The control computer 28 controls the flow rate adjusting state in the flow rate adjusting section in such a manner that the discharge ratio of the exhaust passage 20A with respect to the exhaust passage 208 in the case that the exhaust gas temperature Tx exists in the low temperature region becomes smaller than the discharge ratio of the exhaust passage 20A with respect to the

exhaust passage 20B in the case that the exhaust temperature Tx does not exist in the low temperature region. Accordingly, the catalyst 25B provided in the exhaust passage 20B is early activated.

In the state in which the all or most of the exhaust gas is discharged from the exhaust passage 20B, it is necessary to circulate the exhaust gas within the exhaust manifold 18A through the exhaust passage 20B. Reducing the amount of the exhaust gas flowing through the exhaust gas supply passage 248 from the inner side of the exhaust manifold 18B as well as increasing the amount of the exhaust gas flowing through the exhaust gas supply passage 24A from the inner side of the exhaust manifold 18A achieves substantially the same operation as circulating the exhaust gas within the exhaust manifold 18A through the exhaust passage 20B.

In the internal combustion engine provided with the structure of supplying the exhaust gas to the intake path so as to contribute to the purification of the exhaust gas, that is, the exhaust gas supply passages 24A and 24B and the flow rate adjusting valves 29A and 298, a new mechanism for supplying the exhaust gas to the intake path is not required. Accordingly, in the internal combustion engine designed such as to be provided with the exhaust gas supply passages 24A and 24B and the flow rate adjusting valves 29A and 29B, it is possible to achieve an early activation in the catalyst 25B in a pair of catalysts 25A and 258, without adding any new mechanism for supplying the exhaust gas to the intake path.

By contrast, Asada merely disclose changing "full cylinder operation" to "partial cylinder operation" when the engine load is decreased. As recited in column 4, lines 47-53, of Asada, when the first throttle valve 10a is closed, the recirculation valve 16a of the idle cylinder group is made to be open wide, and the recirculated gas passage 15a is supplied primarily with "air" - not with the exhaust gas. Moreover, Asada does not disclose the claimed "exhaust flow rate adjusting section" and "supply flow rate adjusting section" as now claimed. Thus, Asada does not adjust the ratio of the flow rate of the exhaust gas as claimed. Withdrawal of the rejection of claims 1-2 and 7-9 is thus solicited.

Claim Rejections – 35 U.S.C. §103(a) – Asada and Itoyama

Claims 3-4 and 11-12 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable as obvious over Asada in view of Itoyama (US 6,917,873). This rejection is respectfully traversed.

Some of the shortcomings in the teachings of Asada are noted above. Itoyama does not address the shortcomings in the teachings of Asada. In particular, Itoyama also does not

disclose or suggest a "control section" that "decreases the opening degree of the exhaust flow rate adjusting section and increases the opening degree of the supply flow rate adjusting section in such a manner that a ratio of the flow rate of the exhaust gas discharged from the first exhaust path with respect to the flow rate of the exhaust gas discharged from the other exhaust paths than the first exhaust path becomes smaller in a case that the temperature of the catalyst arranged in the other exhaust path exists in a preset low temperature region than in other cases." Since neither Asada nor Itoyama suggest at least this feature of the claimed apparatus, the teachings of Asada and Itoyama, even if combined as proposed by the Examiner, would not have rendered the invention obvious to one skilled in the art. Accordingly, claim 1 and dependent claims 3-4 and 7-8 are allowable over Asada and Itoyama. Also, in view of corresponding features in apparatus claim 2 and method claim 9, independent claims 2 and 9 and dependent claims 5-6 and 10-12 are patentable as well.

Allowable Subject Matter

Applicant appreciates the Examiner's indication that the subject matter of claims 5-6 and 10 is allowable. Since the claims from which claims 5-6 and 10 depend (claims 2 and 9) are believed to be allowable for at least the reasons noted above, dependent claims 5-6 and 10 have not been placed in independent form at this time. Applicant reserves the right to place claims 5-6 and 10 in independent form at a later time as necessary to facilitate allowance.

Conclusions

In view of the above, the present application is believed to be in condition for allowance. A Notice of Allowability is solicited.

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